

## Claims

- [c1] A filter canister assembly for a gas mask comprising:
- a primary filter canister with an inlet opening at a first end and an outlet at a second end;
  - a first filter medium adapted to remove aerosols, particulate materials and droplets from air and mounted in the primary filter canister in communication with the primary filter canister inlet opening;
  - a second filter medium adapted to remove toxic gases and arranged in serial communication with the first filter medium in the primary filter canister and with the outlet opening in the first filter housing, whereby the first and second filter media are capable of filtering out contaminants in normal hostile environments; and
  - a supplementary filter canister having an inlet opening at a first end and an outlet opening at a second end, the supplementary filter canister second end is removably mounted to the primary filter canister first end so that the primary filter canister inlet opening is in communication with the supplementary filter canister outlet opening; and
  - a third filter media adapted to filter toxic industrial materials and mounted in said supplementary filter canister

in communication with the inlet and outlet openings in the second filter canister.

- [c2] A filter canister assembly for a gas mask according to claim 1 wherein the first and second filter media are mounted in axially stacked relationship and further comprising a barrier between the first and second filter medium to force air entering the canister through the inlet opening from a central portion of the first filter medium in a radial direction through the first filter medium to an outer portion thereof, then axially to an outer portion of the second filter medium, then radially through the second filter medium to a central portion of the second filter medium to the outlet opening of the housing.
- [c3] A filter canister assembly for a gas mask according to claim 2 wherein the third filter medium comprises a particulate filter and a sorbent filter.
- [c4] filter canister assembly for a gas mask according to claim 3 wherein the first filter medium comprises a pleated paper.
- [c5] A filter canister assembly for a gas mask according to claim 4 wherein the second filter medium comprises an adsorbent carbon filter medium.

- [c6] A filter canister assembly for a gas mask according to claim 5 wherein the second filter medium further includes metallic salts that interact with contaminant gases.
- [c7] A filter canister assembly for a gas mask according to claim 1 wherein the third filter medium is a particulate filter and a sorbent filter.
- [c8] filter canister assembly for a gas mask according to claim 1 wherein the first filter medium comprises a pleated paper.
- [c9] A filter canister assembly for a gas mask according to claim 1 wherein the second filter medium comprises an adsorbent carbon filter medium.
- [c10] A filter canister assembly for a gas mask according to claim 9 wherein the second filter medium further includes metallic salts that interact with contaminant gases.
- [c11] A filter canister assembly for a gas mask according to claim 1 wherein the composition and amount of the third filter medium is adapted to boost the capability of the first and second filter media to filter TIMs from contaminated air.

